

**What is claimed is:**

1. A bone plate with a longitudinal axis, a bone-contacting bottom side and a top side with at least one set of overlapping holes which communicate through the plate from the top to the bottom side, wherein the at least one set of overlapping holes defines a threaded aperture having multifaceted surfaces.
- 1    2. The bone plate of claim 1, wherein the overlapping holes are formed normal to the top side of the plate.
- 1    3. The bone plate of claim 1, wherein the overlapping holes are formed at an angle offset from normal to the top side of the plate.
- 1    4. The bone plate of claim 1, wherein at least one of the overlapping holes is formed normal to the top side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to the top side of the plate.
- 1    5. The bone plate of claim 1, wherein the multi-faceted surface is a coaxial series of annular grooves.
- 1    6. The bone plate of claims 1, wherein the threaded aperture further comprises multiple sets of overlapping holes.
- 1    7. The bone plate of claim 6, wherein the overlapping holes are formed normal to the top side of the plate.
- 1    8. The bone plate of claim 6, wherein the overlapping holes are formed at an angle offset from normal to the top side of the plate.
- 1    9. The bone plate of claim 6, wherein at least one of the overlapping holes is formed normal to the top side

2 of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to the  
3 top side of the plate.

1 10. The bone plate of claim 6, wherein the multiple sets of overlapping holes are aligned on the axis.

1 11. The bone plate of claim 6, wherein the multiple sets of overlapping holes are positioned in a staggered  
2 arrangement from the longitudinal axis.

1 12. The bone plate of claim 11, wherein the overlapping holes are formed normal to the top side of the  
2 plate.

1 13. The bone plate of claim 11, wherein the overlapping holes are formed at an angle offset from normal  
2 to the top side of the plate.

1 14. The bone plate of claim 11, wherein at least one of the overlapping holes is formed normal to the top  
2 side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to  
3 the top side of the plate.

1 15. The bone plate of claim 1, wherein the multi-faceted surface is a threaded surface.

1 16. The bone plate of claim 15, wherein the overlapping holes are formed normal to the top side of the  
2 plate.

1 17. The bone plate of claim 15, wherein the overlapping holes are formed at an angle offset from normal  
2 to the top side of the plate.

- 1    18. The bone plate of claim 15, wherein at least one of the overlapping holes is formed normal to the top  
2    side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to  
3    the top side of the plate.
  
- 1    19. The bone plate of claim 1 wherein the set of overlapping holes is adapted to receive a bone screw with  
2    a head and a bone-engaging thread.
  
- 1    20. The bone plate of claim 19, wherein the head of the bone screw has a plate engaging thread.
  
- 1    21. The bone plate of claim 19, wherein the overlapping holes are formed normal to the top side of the  
2    plate.
  
- 1    22. The bone plate of claim 19, wherein the overlapping holes are formed at an angle offset from normal  
2    to the top side of the plate.
  
- 1    23. The bone plate of claim 19, wherein at least one of the overlapping holes is formed normal to the top  
2    side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to  
3    the top side of the plate.
  
- 1    24. The bone plate of claim 1 wherein the set is comprised of two overlapping holes.
  
- 1    25. The bone plate of claim 24, wherein the overlapping holes are formed normal to the top side of the  
2    plate.
  
- 1    26. The bone plate of claim 24, wherein the overlapping holes are formed at an angle offset from normal

2 to the top side of the plate.

1 27. The bone plate of claim 24, wherein at least one of the overlapping holes is formed normal to the top  
2 side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to  
3 the top side of the plate.

1 28. The bone plate of claim 1, wherein the set is comprised of three overlapping holes.

1 29. The bone plate of claim 28, wherein the overlapping holes are formed normal to the top side of the  
2 plate.

1 30. The bone plate of claim 28, wherein the overlapping holes are formed at an angle offset from normal  
2 to the top side of the plate.

1 31. The bone plate of claim 28, wherein at least one of the overlapping holes is formed normal to the top  
2 side of the plate and at least a second of the overlapping holes is formed at an angle offset from normal to  
3 the top side of the plate.

1 32. An orthopaedic kit including:

2 a. a bone plate with a longitudinal axis, a bone-contacting bottom side and a top side with at  
3 least one set of overlapping holes which communicate through the plate from the top to the bottom side,  
4 the overlapping holes defining a threaded aperture having multifaceted surfaces; and

5 b. at least one bone screw engageable with the bone plate.

1 33. The kit of claim 32, further comprising a drill guide having a main drill guide surface and opposite end  
2 portions, one end portion of which is securely engageable with the multi-faceted surface of a hole in the

- 3 bone plate so as to securely hold the drill guide in a desired orientation with respect to the bone plate for
- 4 stabilizing a drill used in an orthopaedic procedure.

  

- 1 34. A bone plate with a longitudinal axis, a bone-contacting bottom side and a top side with a plurality of
- 2 sets of overlapping holes which communicate through the plate from the top to the bottom side, wherein
- 3 the set of overlapping holes have threads adapted to receive a bone screw with a threaded head and a bone
- 4 engaging threaded shank.

  

- 1 35. A bone plate with a longitudinal axis, a bone-contacting bottom side and a top side with a plurality of
- 2 sets of overlapping holes which communicate through the plate from the top to the bottom side, the
- 3 overlapping holes having threaded surfaces adapted to receive bone screws with a threaded head and a
- 4 bone engaging threaded shank, wherein the overlapping holes have centers substantially aligned along the
- 5 longitudinal axis of the plate.

  

- 1 36. A bone plate with a longitudinal axis, a bone-contacting bottom side and a top side with a plurality of
- 2 threaded apertures communicating through the plate from the top to the bottom side, at least one of the
- 3 threaded apertures comprised of overlapping holes having a threaded surface adapted to receive a bone
- 4 screw with a head and a bone engaging thread, the overlapping holes further having centers staggered
- 5 about the longitudinal axis of the plate.

  

- 1 37. A bone plate with a longitudinal axis, a bone-contacting bottom side having a total area and a top side
- 2 with a plurality of threaded apertures which communicate through the plate from the top side to the
- 3 bottom side, at least one of which is a set of overlapping holes, wherein the overlapping holes have
- 4 multifaceted surfaces and wherein the bottom side includes recesses located between adjacent threaded
- 5 apertures and which are substantially located exclusively on the bottom side, the recesses being sized so as
- 6 to define a cross-section transverse to the longitudinal axis and across the recesses that ensures that a yield
- 7 strength in bending across the recesses is less than across a threaded aperture.

  

- 1 38. The bone plate of claim 37, wherein the recesses are substantially rectangular in form.

- 1    39. The bone plate of claim 37, wherein the recesses are equally spaced along the longitudinal axis.
- 1    40. The bone plate of claim 37, wherein the total area removed from the bottom side due to the recesses is less than or equal to 50% of the total surface area of the bottom side.
- 1    41. The bone plate of claim 37, wherein the recesses are transverse and extend across the width of the bone plate.
- 1    42. The bone plate of claim 37, wherein the recesses extend from a side of the bone plate transversely toward the longitudinal axis but do not cross the axis.